



Town of Andover – Department of Public Works Water Quality Evaluation

December 17, 2018



Scope of Services

- Treatment Plant Evaluation
 - Perform sampling and analysis
 - Identify sources of Manganese (Mn) and Iron (Fe)
 - Optimize removal treatment
- Distribution System Evaluation
 - Update hydraulic computer model
 - Perform flow tests and collect water quality samples
 - Evaluate system hydraulics & flow patterns
 - Identify areas of concern and prioritize improvements
 - Evaluate unidirectional flushing program
- Complaint Tracking
 - Continue mapping complaint data
 - Improve procedures for logging, tracking and resolving water quality issues
 - 2018 saw increased water quality complaints



Water Treatment Plant – Preliminary Findings

- Summer 2018 - Raw water Mn increased quickly – detected by manual sampling
- Operational changes were made
- Mn made it through the plant and into the system
- Current operation is reducing Mn and Fe to below required levels
 - Raw Mn = 0.376 mg/L to 0.019 mg/L
 - Raw Fe = 0.620 mg/L to non-detect
- The plant has the unit processes to remove Mn and Fe
- Reviewing real-time Mn monitoring equipment



Water Treatment Plant – Action Plan

- Continue raw and in-plant sampling
- Condition assessment of processes and equipment
- Operational and optimization assessment
 - Ozone dosing and chemical feed
 - Filter operation
 - Flows and process capacity
 - Identify limiting factors – improvement priorities





Distribution System – Preliminary Findings

- Fall 2018 – colored water complaints significantly reduced
- Fires, main breaks, flow increases, high velocity and flow reversal all can contribute to dirty water
- 100+ miles of old, cast iron main (lined and unlined)
- Town has replaced over 8.5 miles since 2014 - \$7 million+
- Town has an engineered flushing program
- Checked computer model and confirmed calibration
- Assisting crews with valve exercising program



Distribution System – Action Plan

- Continue to look at pressures and flows
 - New pumps at the treatment plant
- Evaluate effectiveness of the flushing program
 - Impacted by gas emergency
 - Weather – safety concerns
 - Spring 2019 – assist with flushing assignments
 - Determine fire flows - Further calibrate computer model
- Use hydraulic model to evaluate operation of the distribution system



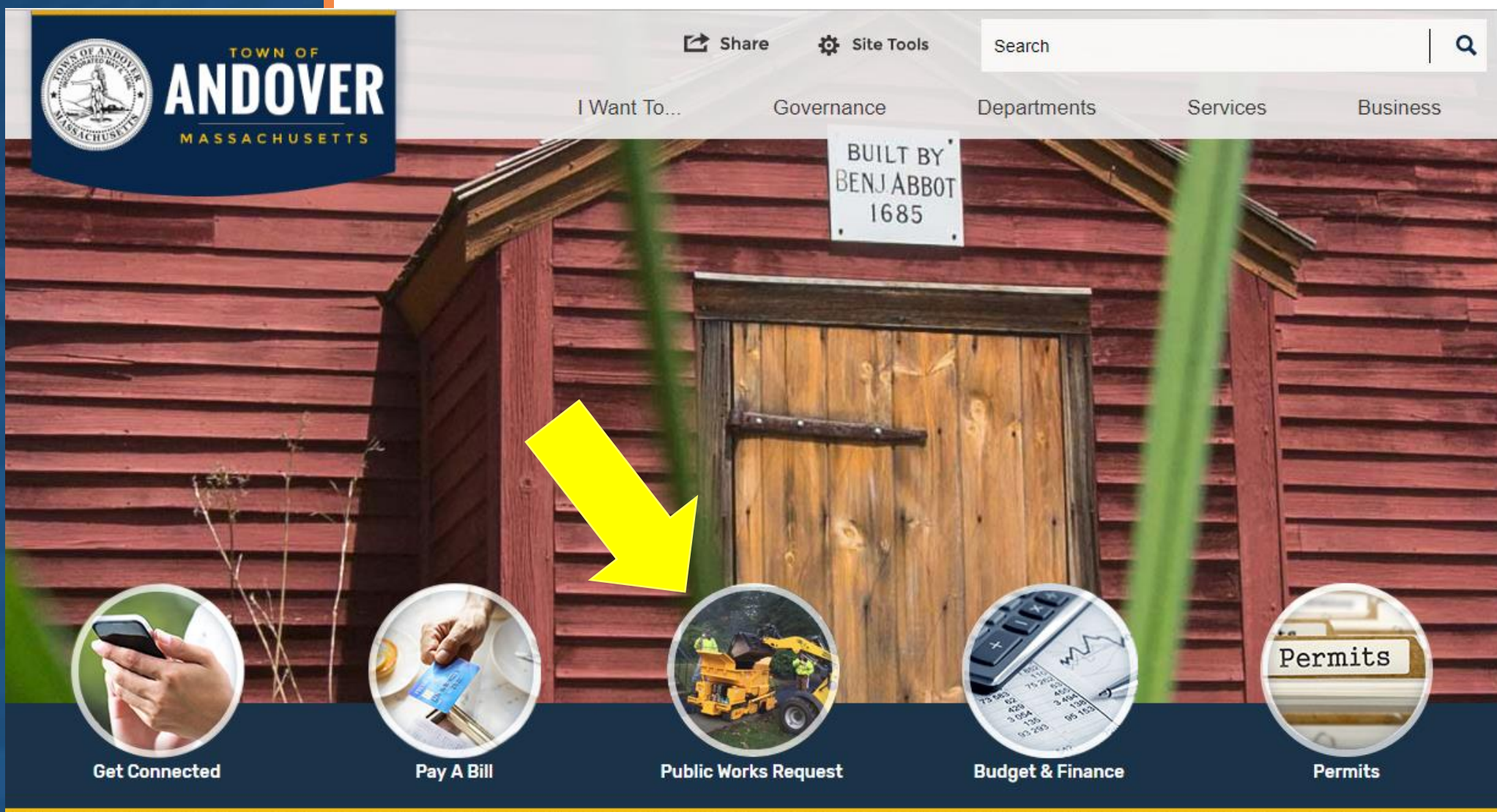
Distribution System – Action Plan (cont.)

- Prioritize water main replacement program
 - Older, cast iron piping (100+ miles)
 - Criticality
 - Break history
 - Complaint history
 - Flow velocity and reversal
 - Gas work is a new issue – paving 19 miles in 3 years - coordinate paving with needed water main replacements – pave where water mains are NOT needed first
- Continue to assist with valve exercising program
- Town is looking at how to fund infrastructure needs
 - Accelerate main replacement program



How Residents Can Help

- Town Website: “Public Works Request”



MaintStar Public Works Request

New Request

Submit

* Indicates a required field

Request Location

Use my address

*If the issue being reported is at your residence, click the use my address button (your address information must be filled out in your profile). Otherwise, provide location of issue using street and cross street picker and also location description if need be.

Street Number

Street

Cross Street

enter additional information about the location

Location
Description

Request Information

Please fill out the request providing as much information as possible. Please do not submit multiple requests for the same issue.

Department *

Category * (Operation at first)

Choose Issue

Click Here

enter additional information about the issue

Comments

Reset Form

↓ You can upload pictures or attachments below

Attachments

Max File Size 9Mb



Click or Drop
files here to upload

Submit



How Residents Can Help

- Call DPW – 978-623-8700, press 0
- Email at DPW@andoverma.gov
 - Include location, nature of the complaint, duration
- The Town welcomes the opportunity to assist
 - A DPW representative will be happy to come to your home or business following a complaint – it helps!